## **CLAIMS:**

1. A method for determining network topology, comprising:

capturing and storing channelized data with a network analyzer;

interleaving the channelized data into a unitary data stream in chronological

order; and

processing the unitary data stream to extrapolate indicators of network

elements.

2. The method of claim 1, wherein processing the unitary data stream further

comprises determining a left and right topology from the network analyzer.

3. The method of claim 2, further comprising analyzing ordered sets, source and

destination IDs, and ordering of events in the unitary data trace to determine the

presence of network elements.

4. The method of claim 3, further comprising analyzing open and close

commands in the unitary data trace to determine the presence of a loop.

5. The method of claim 3, further comprising analyzing device addresses in the

unitary data trace to determine the presence of switches.

The method of claim 3, further comprising analyzing ordering of events in the 6.

unitary data trace to determine the presence of stealth mode switches.

A method for determining network topology during a network analysis 7.

process, comprising:

positioning at least one network analyzer in communication with the network;

capturing trace data from a first and second channel on each of the

analyzers;

146

determining a first topology corresponding to the first channel of each

analyzer;

determining a second topology corresponding to the second channel of each

analyzer;

combining the first and second topologies from each of the analyzers; and

deleting duplicate topology entries from the combined topology to generate

the network topology.

8. The method of claim 7, wherein positioning the at least one network analyzer

further comprises positioning the analyzers such that bidirectional communication

between each network element may be captured in a data trace.

9. The method of claim 7, wherein capturing trace data further comprises storing

channelized data for subsequent processing.

10. The method of claim 7, wherein determining the first and second topology

comprises analyzing ordered sets, source and destination identifications, device

addresses, and ordering of events in the trace data to determine the presence of

network elements that correspond to the ordered sets, source and destination

identifications, and device addresses.

11. The method of claim 10, further comprising analyzing open and close

commands in the trace data to determine the presence of a loop on the network.

12. The method of claim 10, further comprising analyzing device addresses in the

trace data to determine the presence of switches on the network.

The method of claim 10, further comprising analyzing ordering of events in 13.

the trace data to determine the presence of stealth mode switches on the network.

147

PATENT

Atty Dkt No.: FNSR/1001.02

Express Mail No. EV335470555US

The method of claim 7, further comprising displaying the network topology to 14.

a user via a graphical user interface.

A method for analyzing a network to determine the topology of the network, 15.

comprising:

positioning at least one analyzer in communication with the network;

capturing a left channel and a right channel data trace from each of the at

least one analyzers;

extrapolating network device presence indicators from the left and right

channel data; and

determining the network topology from the network device indicators; and

displaying the determined network topology to a user.

16. The method of claim 15, further comprising combining the left and right

channel data into a unitary data stream.

17. The method of claim 16, wherein determining the network topology comprises

determining a left topology and a right topology for each of the at least one

analyzers and combining the left and right topologies to determine an overall

topology.

18. The method of claim 15, wherein determining the network topology comprises

analyzing ordered sets, source and destination identifications, device addresses,

and ordering of events in the data trace to determine the presence of network

devices that correspond to the ordered sets, source and destination identifications,

and device addresses.

19. The method of claim 18, wherein the ordered sets are analyzed to determine

the presence of loops on the network.

148

**PATENT** 

Atty Dkt No.: FNSR/1001.02

Express Mail No. EV335470555US

20. The method of claim 18, wherein the device addresses are analyzed to determine the presence of switches on the network.

21. The method of claim 18, wherein ordering of events is analyzed to determine the presence of stealth mode switches on the network.